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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01000

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SECTION 01000

GENERAL

PART 1 GENERAL

1.1 ORGANIZATION OF SPECIFICATIONS

The specifications which govern the materials and equipment to be furnished and the work to be performed under this contract are listed in the Table of Contents. No attempt has been made in the specifications to segregate work to be performed by any trade, craft, or subcontractor. Any segregation between the trades or crafts shall be solely a matter for agreement between the Contractor, Contractor's employees, and subcontractors.

1.2 REFERENCES

Reference to the standards, specifications, or codes of any technical society, organization, or association, or local, state, or Federal authority shall mean the specific edition or revision listed.

1.3 DEFINITIONS

1.3.1 Railroad Agreement

The "Railroad Agreement" shall mean the "Agreement with Burlington Northern and Santa Fe Railway Company for Relocation, Rearrangement or Alteration of Facilities." This agreement is attached in Section 00830.

1.3.2 Railroad Right-of-Way

The "Railroad Right-of-Way", unless otherwise indicated, shall mean the properties and easements entitled to the Railroad, including those easements temporarily or permanently granted to the Government. The property descriptions are included in the Railroad Agreement.

1.4 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with SECTION 01330: SUBMITTAL PROCEDURES:

SD-04 Drawings

Utility As-Builts; FIO.

The Utility As-Builts are described under PARAGRAPH: SURVEYS.

SD-08 Statements

Dewatering plan; FIO.

The submittal requirements are described in PARAGRAPH: DEWATERING OPERATIONS.

Shoring plan; FIO.

The submittal requirements are described in PARAGRAPH: SHORING.

Miter Gate Bridging plan; FIO.

The submittal requirements are described in PARAGRAPH: PROTECTION OF EXISTING GRATING.

1.5 MEASUREMENT AND PAYMENT

The Contractor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract line items on the bidding schedule.

PART 2 PRODUCTS

2.1 APPROVAL OF MATERIALS OR ALTERNATES

Requests for approval of materials and products, or substitutes thereof, will not be considered prior to award of the contract.

2.2 WARRANTIES

Any items that are submitted for review or approval of the Contracting officer should include a copy of the manufacturer's standard warranty if one is available.

2.3 COLOR AND PATTERN SCHEMES

Color, finish and pattern charts and samples for the following items, which are specified in the various technical sections of these contract documents to be submitted to the Contracting Officer, will be retained and not approved by the Contracting Officer until all such items have been reviewed collectively to determine the desired color and pattern schemes:

- Acoustic tile (ceiling panels)
- Aluminum window frames
- Caulking
- Ceramic tile
- Concrete (precast and cast-in-place)
- Builders' hardware
- Doors
- Electrical equipment
- Floor covering
- Furniture
- Glazing
- Grout
- Joint Sealers

- Kitchen appliances
- Lighting fixtures
- Marker board/Tack board
- Mechanical equipment
- Metal lockers
- Paint
- Plastic laminate covering
- Plumbing fixtures and accessories
- Recessed entrance mat
- Roofing materials
- Sealants
- Sheet metalwork
- Stain
- Terrazzo
- Toilet partitions and accessories
- Vinyl wall covering
- Window shades and blinds

PART 3 EXECUTION

3.1 GROUND AND ROADWAYS

3.1.1 Availability of Grounds

The boundary limits of the grounds made available for the Contractor's use during the life of the contract are shown on the drawings. Any additional rights-of-way or grounds desired by the Contractor shall be obtained by the Contractor at its own expense, and copies of agreements for the use of such rights-of-way shall be furnished to the Contracting Officer before entering thereon. Such agreements shall clearly relieve the Government of any responsibility for damages resulting from the use of the grounds.

3.1.1.1 Railroad

The new railroad crossing may not be available during the period of this contract. If the agreement with the railroad is finalized, the Contractor will have right to use of the new crossing, subject to the terms and conditions of the agreement. Since there is only about 12 feet between the pedestrian underpass and the new central control station, a temporary road crossing may be required through this area.

3.1.1.2 Parking

Contractor parking will be permitted only in the area(s) shown, including the Contractor's staging area. No parking will be allowed on the grass. Contractor parking shall be coordinated with the Government.

3.1.1.3 Snow Removal

The Contractor shall be responsible for snow removal in the Contractor's access, work, and parking areas.

3.1.2 Drainage Facilities

Insofar as natural drainage from the protected areas is obstructed by contract operations, it shall be the Contractor's responsibility to make adequate provision for accommodating such drainage in a satisfactory manner during the life of this contract, either by temporary means or by use of the permanent construction and operation of the permanent facilities.

3.1.3 Roadways

3.1.3.1 Traffic hazards

When continuous haul operations or other condition created by the Contractor's operations result in interference or hazard to traffic on streets and highways, beyond that of ordinary public usage, the Contractor shall erect warning signs and provide flagging services as necessary to safeguard the public as required in SECTION 01500: TEMPORARY CONSTRUCTION FACILITIES.

3.1.3.2 Haul routes

The Contractor shall be responsible for securing all permits required along haul routes. The Contractor shall be the sole permittee and shall be responsible for meeting all obligations of the permits. A copy of each permit shall be submitted to the Contracting Officer. The Contractor, as between the Government and the Contractor, has sole responsibility for damage or deterioration of the Contractor's haul routes. Dust control shall be provided as stated in SECTION 01410: ENVIRONMENT PROTECTION.

3.2 DISPOSAL OF DEBRIS AND WASTE

The Contractor's attention is directed to SECTION 01410: ENVIRONMENT PROTECTION and to the following CONTRACT CLAUSES: PERMITS AND RESPONSIBILITIES; PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, EQUIPMENT, AND IMPROVEMENTS; OPERATIONS AND STORAGE AREAS; and CLEANING UP. Burning will not be permitted at the project site and debris or waste shall not be left on the site. Disposal of clearing and grubbing debris shall be by one of the following methods:

3.2.1 Disposal offsite for useful purposes

In the interest of conservation, it is required that the Contractor make a reasonable effort to dispose of the material offsite for some useful purpose. Timber may be cut into convenient lengths and utilized for making saw logs, posts, cordwood, wood chips for paper making or other uses, or other similar use.

3.2.2 Disposal in a locally operated sanitary landfill

Contractor shall select the disposal site with the approval of the Contracting Officer. The Contractor shall secure the required permits for disposal and provide copies of the permit to the Contracting Officer.

3.2.3 Disposal of Solid Construction Debris and Waste

Disposal of Solid Construction Debris and Waste shall consist of removal from Government property and disposal in compliance with Federal, state, and local requirements for solid waste disposal. Contractor shall select the disposal site with the approval of the Contracting Officer.

3.3 EXISTING UTILITIES

3.3.1 General

The Contractor shall coordinate all utility relocation requirements and make payment to the utility companies for all services, fees, and permits required to relocate and reestablish service. The Contractor shall be responsible for all costs related to protecting existing utilities. The Contractor shall coordinate with the utility representatives listed below:

a. Electrical Service. The installation of the electrical service from the main line up to and including the electrical transformer shall be performed by the Northern States Power Company. All costs for this installation shall be borne by the contractor and, the contractor shall schedule and coordinate the electrical service line installation such that there will be no delays in the completion of the work of this contract. The contact at the Northern States Power Company is as follows:

Northern States Power Company
Attn: Mr. Brad A. Nelson
3215 Commerce Street
P.O. Box 727
LaCrosse, Wisconsin 54602-0727
Telephone: 1-800-895-4999

b. Telephone Service Installation. The installation of the telephone service line to the new Central Control Station shall be performed by Vemon Telephone Cooperative Inc., 103 N. Main, Westby WI. All costs for this installation shall be borne by the contractor and, the contractor shall schedule and coordinate the telephone service line installation such that there will be no delays in the completion of the work of this contract.

c. Railroad Utilities. There are cable systems in the railroad right of way. Before beginning any work in the railroad right of way, the Contractor shall telephone the Communication Network Control Center at 1-800-533-2891 (a 24-hour number).

3.3.2 Buried Utilities

The approximate locations of known existing buried utilities are shown on the drawings to the extent of available information at the time the drawings were prepared. (In general, no service connections are shown.) Prior to commencing excavation, the Contractor shall accurately locate all such installations. In the event the Contractor damages any existing utility lines, report thereof shall be made immediately to the Contracting Officer. If the Contracting Officer determines that repairs shall be made by the Contractor, such repairs shall be performed immediately.

3.3.3 Interruption of Services

Utility services shall not be interrupted except for brief periods to facilitate cut-ins. The Contractor shall provide temporary service and shall relocate existing utilities as required to construct the work shown and insure uninterrupted service. If interruption of services is unavoidable, the Contractor shall request approval in writing at least 30 calendar days prior to the proposed interruption. This submittal shall fully describe all details of proposed interruption and the reasons why alternatives are not feasible. The Contractor shall further coordinate with the owner of the utility and notify affected consumers at least 10 calendar days in advance of interruption of services. The Contracting Officer will not in general approve proposals which require interruption of services for more than 4 continuous hours.

3.3.4 Wisconsin Diggers Hotline

For contract work performed within the State of Wisconsin, the Contractor shall meet the requirements of the Wisconsin Statute 182.0175 "Damage to Transmission Facilities." The Wisconsin Diggers Hotline notification center telephone numbers are:

Hotline	800-242-8511
Main Office	414-259-0676

3.4 SCHEDULING

3.4.1 General

It shall be the responsibility of the Contractor to schedule and execute the work, incorporating the necessary requirements set forth in these specifications. The Contractor shall develop and submit a schedule in accordance with SPECIAL CONTRACT REQUIREMENTS: SCHEDULES FOR CONSTRUCTION CONTRACTS.

3.4.2 Notification

The Contractor shall inform the Government in writing within 5 days after receipt of notice to proceed and before work begins as to which hours of the day and days of the week work under this contract will be performed. The Contractor shall notify the Government at least 24 hours before work is to be conducted on overtime, in multiple shifts, on weekends, or on Federal Government holidays.

3.4.3 Work Hours

The hours during which the Contractor is expected to perform work under this contract are unrestricted. Assistance by Government personnel to operate gates or machinery shall be coordinated with the Contracting Officer and must be performed while there is adequate staff on duty.

3.4.4 Scheduling Restrictions

a. Renovation of Existing Central Control Station. The existing central control station must be maintained (building accessible, utilities functional, and parking available) by the Contractor, for Government use only, until the new central control station is habitable, as determined by the Contracting Officer, at which point the Government will vacate the existing central control station and relocate to the new CCS.

c. Mechanical Systems. Installation of CCS Interior Mechanical Systems shall not occur prior to completion of the building's roof, doors and walls to avoid exposure of the equipment to exterior conditions.

d. Existing Water System. Water service within the lock and dam site shall be maintained throughout this contract. The water service to the existing central control station shall be maintained until it is vacated by Lock and Dam personnel.

e. Horizontal Concrete Repairs. Concrete demolition and placement for horizontal concrete repairs of lock walls and light standards shall be limited to the period of 1 May to 31 October. Concrete placement each day shall be completed before 8 AM, except when the maximum daily temperature does not exceed 70 degrees Fahrenheit. In addition, the following restrictions shall apply to limit interference with operation of the lock:

Horizontal concrete repairs on the land wall and intermediate wall shall not be scheduled concurrently. One wall shall be completed prior to starting demolition on the other wall.

On each monolith, concrete shall be placed within 7 calendar days after start of concrete demolition.

The Contractor shall make all necessary provisions for continued operation of the lock, including but not limited to passage of electric carts and pedestrians, and operation of the tow haulage units.

Concrete removal near checkpoints is restricted, as shown on concrete repair drawings.

f. Vertical Concrete Repairs. All repairs to vertical surfaces of the navigation side of all structures shall be performed during the non-navigation season.

g. RR Crossing. The railroad will install the portions of the new crossing within 1 foot of the rail, the warning signals and barrier. The date for installation of the new railroad crossing is part of the railroad agreement attached in Section 00830.

3.5 CONSTRUCTION RESTRICTIONS

3.5.1 Rail Road Crossing

Work within the RR right of way shall be coordinated with the railroad. The Contractor shall be responsible for satisfying all requirements of the Railroad, such as scheduling and safety requirements.

Flagman. A flagman from the railroad is required for any work within the railroad right of way. The Contractor shall be responsible for scheduling and cost reimbursement for the flagman. Flagman shall be scheduled at least 2 weeks in advance of the work.

Points of Contact. Scheduling shall be through the BNSF railroad in LaCrosse, Wisconsin:

Roadmaster:	Mr. Bill Barbee	608/781-7438
Alternate:	Mr. Mike Veitz	608-781-7437.

3.5.2 Blasting

Blasting will not be permitted.

3.5.3 Pavement Removal and Replacement

Where roads are cut, removed, or otherwise damaged in the prosecution of the work the Contractor shall replace all pavements or other surfacings so removed or damaged to their preconstruction condition. After backfill is completed on paved streets, a temporary surface shall be laid down and the street opened to the traffic in order to provide access to abutting property. Restoration of the original street surface construction shall be completed no later than 60 calendar days after starting excavation. Should weather conditions preclude the restoration of the original surface material, temporary resurfacing utilizing a bituminous mixture shall be installed with the final surface constructed no later than June 1 of the following construction season.

3.5.4 Lock and Dam Operation

The Contractor shall keep the lock operational during the navigation season, and the dam operational year-round. The navigation season shall be defined as March 1 through December 1, unless otherwise specified. Facilities shall be maintained for operating personnel so they can perform their normal functions. The Contractor shall designate a coordinator to assure that the construction work is coordinated with the operation of the lock. For additional requirements, see SECTION: REMOVALS, TEMPORARY WIRING, AND GOVERNMENT-FURNISHED EQUIPMENT.

3.5.5 Highway

Work within the highway right of way shall be coordinated with the Department of Transportation. The Contractor shall obtain a permit for construction of segmental retaining wall No. 1. The point of contact is:

Pete Strachan
District 5, Wisconsin State Highway Department
3550 Mormon Coulee Road
LaCrosse, Wisconsin 54601

608-785-9058.

3.5.6 Diving

All diving shall be performed in accordance with the U.S. Army Corps of Engineers "Safety and Health Requirements Manual" EM 385-1-1, Section 30. Prior to submitting bids on this contract, Contractor's and their diving Subcontractor (if applicable), shall obtain copies of this manual, and plan their procedures and staffing requirement accordingly. The Corps of Engineers "Safety and Health Requirements Manual" EM 385-1-1 is available to prospective bidders for review at the U.S. Army Engineer District, St. Paul, MN.

3.5.7 Work Restrictions Near Flammable Cargo

When tows enter the lock carrying flammable cargo, the Contractor shall discontinue use of welders, torches, electric tools, and any other source of flame or sparks. The duration and vicinity of these restrictions shall be directed by the Contracting Officer.

3.5.8 Load Restrictions

- a. Lock Walls. The Contractor shall adhere to the following weight limitations in the area of the lockwall: Maximum 40 tons within 50 ft. of the lock chamber face of the lockwall and maximum 150 tons beyond 50 ft. from the lock chamber face of the lockwall.
- b. Electrical Trenches. All wheel loads shall require bridging over the electrical trenches. This bridging shall span the electrical trenches so that no additional load is imposed on the electrical trenches.
- c. Protection of Existing Grating. Protection shall include all grating that is not replaced under this contract. This protection does not relieve the Contractor of the responsibility for limiting loads on the miter gate to prevent damage to the walkway support system.
- d. Miter Gates. The Contractor shall not transport any loads over the miter gates or lock walls that will damage the grating or supports. The following requirements shall apply to transporting materials or supplies across the top of lock walls or miter gates:
 1. Maximum loading (gross weight) shall not exceed 5,000 pounds with a maximum wheel load of 1,500 pounds.
 2. All grating shall be covered by the Contractor with 3/4 inch exterior grade plywood.
 3. The tainter valve pit in monolith R-6 (covered with grating) has a maximum load limit of 100 pounds per square foot.
 4. The miter gate will handle the maximum loading except at the cantilevered portion at the miter end (from support S8 to the miter end of the walkway) and the grating extension at the quoin

end (shown as sidewalk apron on reference drawing M-L8-21/1). The Contractor shall design bridging to take the maximum loading at these locations.

3.5.9 Protection of Trees

Trees to be protected shall be determined and staked by the Contracting Officer. The following measures shall be implemented for tree protection and shall be addressed in the Environmental Protection Plan required under SECTION 01410:

- a. The trees shall be protected from wounds to the bark and foliage.
- b. The critical root zone shall be protected from compaction and grading.
- c. Changes in temporary site drainage and ponding shall be minimized to the extent possible that it effects the protected trees.

The critical root zone of trees designated to be protected shall be surrounded by a high visibility fence 4 feet in height, supplied and erected by the Contractor. The critical root zone shall be defined by an area extending 1.5 feet radius from each tree for each inch of Diameter at Breast Height (DBH). The fence shall be securely erected and installed prior to any movement through the project site by construction vehicles or equipment, and remain in place until construction and clean-up are completed. The critical root zone shall remain free of all construction activities including trenching, staging, stockpiling and storage of materials. Vehicles and equipment shall not drive or park within the critical root zone. Variation to the critical root zone size or configuration will only be permitted where it is absolutely necessary for construction of the project, and requires approval of the Contracting Officer. Short duration alterations of the critical root zone involving wood chips and limited equipment travel shall be submitted in writing for approval.

The Contractor shall not operate equipment in vegetated areas outside the work limits.

3.5.9.1 Restoration of Damaged Trees

Any existing tree designated to be protected that is damaged by the Contractor's operations shall be replaced. Trees will be considered damaged if the critical root zone in cohesive soils is compacted, if there are significant wounds that could contribute to rot, or if distress (evident by reduced growth or other observations of distress documented by a forester) is observed prior to closing the contract. Trees shall be replaced in kind on a caliper inch per caliper inch basis (DBH) (i.e. one 6-inch red oak shall be replaced with two 3-inch red oaks, three 2-inch red oaks, or six 1-inch red oaks). Replacement trees shall be planted in accordance with SECTION 02930: EXTERIOR PLANTING and guaranteed with the Contractor's standard warranty. Replacement tree size and location will be determined and staked by the Contracting Officer. Repair by pruning, aeration, soil conditioning, or other recommendation from a qualified forester will be considered as substitution for replacement by the Contracting Officer.

3.6 OTHER CONTRACTS

The Contractor shall coordinate with other contractors in the performance of the work and schedule such work to provide for a minimum of delays and interferences. Coordination shall be through the Contracting Officer. Work listed below is currently required under separate contract or is scheduled to be awarded as a separate contract prior to completion of work under this contract. These contracts will be considered in the application of CONTRACT CLAUSE: OTHER CONTRACTS.

3.6.1 Bridge Painting and Crane Rail Rehabilitation (Dam 7,8,9,10)

The bridge painting contract is a Corps of Engineers job with the contract number DACW37-98-C-0016 (solicitation number DACW37-98-R-0009). Currently, Lock 8 is substantially completed, but some repair work is scheduled for fall 2000. The point of contact is Mark Paschke at 507/895-3381.

3.6.2 Dam Crane Installation (Phase F)

The dam crane installation contract is a Corps of Engineers job with the solicitation number DACW37-00-B-0007. The point of contact is Sharonne Baylor at 507/454-6150.

3.7 SHORING

3.7.1 General

At locations where shoring is not specifically required by the contract documents to safeguard adjacent structures, the Contractor may at its own option employ shoring for protecting work areas within excavations in lieu of performing excavation to safe and stable side slopes. The Contractor shall construct all shoring required in performing the excavations. Shoring shall be constructed in accordance with the safety requirements of EM 385-1-1.

3.7.2 Responsibility

The Contractor shall be responsible for design and maintenance of all shoring which the Contractor proposes to install. Plans and design computations for all shoring used shall be submitted in accordance with SECTION 01330: SUBMITTAL PROCEDURES at least 30 days prior to installation.

3.7.3 Removal

Unless otherwise authorized, all sheeting and bracing shall be removed when backfill is completed.

3.8 DEWATERING OPERATIONS

3.8.1 Scope

The Contractor shall design, furnish, install and operate dewatering systems in conjunction with associated cofferdams, shoring, and other

related work. Surface drainage shall be controlled by rerouting storm water runoff or diverting natural drainage, as necessary.

3.8.2 Payment

No separate payment will be made for dewatering on this project and compensation for all dewatering operations will be included in the respective contract items to which the work pertains.

3.8.3 Requirements

Control of groundwater shall be accomplished in a manner that will provide suitable working conditions for construction, preserve the strength of the foundation soils, will not cause instability of excavations, and will not result in damage to existing structures. Suitable working conditions for construction will provide a dry or moist subgrade free of standing, percolating, or running water during placement and curing of concrete, and placement and compaction of backfill. Where necessary to these purposes, the water level shall be lowered in advance of excavation utilizing wells, wellpoints, or similar methods. For structure foundations, the water level (as measured in piezometers) shall be maintained a minimum of 1 foot below the prevailing excavation level, or it shall be lowered to within 2 feet of impermeable stratigraphy.

3.8.3.1 Design

If conditions warrant, and if not otherwise specified in the contract documents, dewatering may consist of collection in sumps or trenches, and open pumping. Sumps, trenches and running water shall not jeopardize erosion or groundloss near foundations, pipes, or other structures. Open pumping will not be permitted if it results in boils, seepage in concrete placement areas, loss of fines, softening of the ground, instability of slopes, or interference with orderly progress of the construction.

3.8.3.2 Regulations

Compliance with all regulations shall be incidental to the dewatering work. Disposal of water shall be in accordance with SECTION 01410: ENVIRONMENT PROTECTION and all applicable regulations. Well abandonment shall seal aquifers and confining layers in compliance with environmental regulations and permits.

3.8.3.3 Operation

Upon installation and commencement of dewatering operations, the system shall be operated continuously (24 hours/day, 7 days/week) until the structure and backfill are completed to the groundwater elevation. The Contractor shall be responsible for maintaining the system.

3.8.3.4 Removal

Upon completion of the work, well casing and screens shall be withdrawn, and all equipment shall be removed (including related temporary cofferdams, shoring, etc.)

3.8.4 Geologic Information

Ground water elevations shown on the boring logs are those encountered at the time the borings were taken. Because groundwater elevations are dependent upon hydrologic conditions, variations in the water table should be expected. For work near rivers and navigable waterways, refer to the hydrographs included with the contract drawings. It shall be the Contractors responsibility to perform the necessary dewatering operations irrespective of the water elevations at the time of the work. Compensation for damages resulting from flooding rivers, or other extreme site conditions are specified in CONTRACT CLAUSE: DIFFERING SITE CONDITIONS.

3.8.5 Specific Requirements for Wells

3.8.5.1 Screens

Wells and wellpoints shall be installed with suitable screens and filters so that continuous pumping of fines does not occur. Pumps shall discharge into a settling tank to check for movement of sand.

3.8.5.2 Setback

The following criteria shall be followed to the maximum extent possible. Where permanent site features restrict placement of dewatering devices, the Contracting Officer will allow a variance. Wellpoints shall be located a minimum horizontal distance away from structures (existing and proposed) equal to the depth of penetration below foundation elevation. Wells larger than 3 inches diameter shall be located a minimum horizontal distance away from structures equal to the depth of penetration below foundation elevation plus half the depth of penetration above foundation elevation.

3.8.6 Dewatering Plan

A dewatering plan shall be submitted for each area or phase of the contract where wells, wellpoints, or related systems are required. The plan shall include the following items:

1. layout (including the relationship to site improvements and construction operations)
2. type, sizes, depth and spacing of dewatering devices
3. number and capacity of pumps
4. design assumptions, analysis methods, and calculations
 - 4A. justification for pump capacity
 - 4B. justification for slot size on screens
 - 4C. justification for screen intake area
 - 4D. justification for filter pack gradation
5. description of installation equipment
6. description of operating procedures
7. description of discharge point (weirs, sedimentation basin, etc.)
8. type and location of monitoring equipment
9. removal and abandonment plans

3.8.7 Liability

Government review of the proposed dewatering system will not relieve the Contractor of full responsibility for the adequacy of the dewatering operations. The Contractor shall be responsible for dewatering effects on adjacent properties, including but not limited to blockage of easements, erosion or sedimentation of ditches, and encroachment onto private property by flooding from pump outlets and sedimentation basins.

3.8.8 Related Work

Shoring, trench support systems, cofferdams and diversion structures shall be coordinated with the dewatering effort to provide safe and reliable conditions.

3.9 FLOATING PLANT

3.9.1 Equipment and Personnel

Floating plant and personnel shall comply with the applicable U.S. Coast Guard regulations and licensing requirements. Floating plant equipment shall meet the applicable requirements of 46 CFR Chapter 1 Subchapter E and 46 CFR 44.05-10.

3.9.2 Navigable Waters

Floating vessels operating on the Mississippi River and its tributaries must be operated in accordance with 33 CFR 207.3, "Ohio River, Mississippi River above Cairo, Ill., and their tributaries; use, administration, and navigation."

3.10 SEWAGE AND BILGE WATER DISPOSAL

The Contractor's methods for disposal of sanitary sewage, and bilge water accumulated aboard floating plant equipment, shall meet applicable local, state, and federal requirements.

3.11 SURVEYS

3.11.1 Field Layout

The Contractor shall layout the work from the Government established bench marks in accordance with Contract clause LAYOUT OF WORK in Section 00800. The construction of each feature of work shall follow the alignments as indicated on the drawings. The Contractor shall have in place, at least 7 calendar days prior to commencing construction operations, sufficient stakes and markings to enable the Contracting Officer to observe the field layout of the alignment and limits of each feature of work. For each feature of work, these stakes shall define areal limits such that the Contracting Officer can easily determine, without additional surveys, if alignment and/or limit adjustments need to be made. For embankments, levees, floodwalls, and similar work, these stakes shall define centerline, stationing, outermost fill/cut limits, and work limits. For buildings and similar work, the building corners and grid lines shall be staked. General site work shall be staked to define staging areas, storage areas, and other

area limits as directed. The Contracting Officer may waive these requirements for certain areas. The layout shall be sufficient for the Contracting Officer to mark trees, vegetation and other features to be left undisturbed. No work shall take place without approval of field layout by the Contracting Officer.

3.11.1.1 Alignment Changes

The Government reserves the right to make changes in the alignment of any feature of work as may be found necessary during the course of the contract. If it becomes necessary, through no fault of the Contractor, to abandon a line, location or feature on which work has been done, an equitable adjustment for completed work will be made. No alignment changes or abandonment shall take place without prior written notice from the Contracting Officer.

3.11.2 Utility As-builts.

An as-built field survey of all utilities shall be conducted after installation to determine the final locations and elevations of all utility structures such as manholes, catch basins, hydrants, gate valves, cleanouts, service connections, and other special controls or structures. Final elevations shall be determined for all sewer inverts and castings. Locations shall be shown using the same convention as the original contract drawings (typically stationing and offset from known centerline). If no convention is used in the contract drawings, locations shall be tied to at least 2 permanent landmarks.

3.11.3 Quantity surveys

The Contractor shall perform quantity and tolerance verification surveys for all features of work in accordance with SPECIAL CONTRACT REQUIREMENTS: QUANTITY SURVEYS--ALTERNATE I. Unless changed by the Contracting Officer, the Contractor shall provide cross sections at 100 foot intervals to verify the required section. Areas where payment for material is specified by volume, and/or weight, shall be surveyed by the Contractor, prior to commencement of construction of each feature and upon completion of each feature, in enough detail to accurately determine quantities and verify the required section. The Contractor shall also plot each cross section from the survey notes at a scale of 1" = 10' and provide a copy of the survey notes and cross sections to the Contracting Officer within 10 days after completion of the survey.

--End of Section--

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SECTION 01270

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SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST HB 44	(1997) NIST Handbook 44: Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices
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1.2 COMPENSATION

The payment provided for in the contract shall constitute full compensation for furnishing all materials and for performing all work under the contract in a complete and acceptable manner. The contract work shall include providing plant, equipment, tools, supplies, labor, supervision, incidental materials, quality control, environmental protection, and meeting safety requirements, and for performing all work required for which separate payment is not otherwise provided. Compensation for all work shown, specified, or essential to completion of the project (whether or not the specific material or operation is indicated) shall be included on the bidding schedule. The payment provided for in the contract includes compensation for all risk, loss, damage, and expense arising out of the nature of the work or its prosecution, subject to conditions of the contract. Payment for each contract line item will constitute full compensation for furnishing the materials and constructing the work complete in place as specified.

1.3 FIELD MEASUREMENT

The Contractor shall provide field surveys for quantity determination as specified in SECTION 01000.

1.4 MEASUREMENT BY WEIGHT

Bulk materials paid for by weight will be measured by weighing each truck load on approved scales before being placed in the work. Scales shall be of sufficient length to permit simultaneous weighing of all axle loads and shall be sensitive to a change in load of 0.2 percent throughout the range

of the scales. The scale's accuracy shall conform to the applicable requirements of NIST HB 44 and shall be certified by scale servicing company or by an inspector of the State Inspection Bureau. Each load shall be accompanied by a delivery ticket certified by the weighmaster. Delivery tickets shall be collected by the Contractor, and copies thereof shall be furnished to the Contracting Officer. As a minimum, each ticket shall contain the following information:

- (1) Date and time.
- (2) Vehicle number.
- (3) Gross weight.
- (4) Vehicle tare weight.
- (5) Net weight.
- (6) Job total for material weighed.
- (7) Signature of weighmaster.

1.5 MEASUREMENT UNITS

When materials are measured in units other than the measurement units specified as the basis of payment, the measured quantities shall be converted to the specified unit of measure. Factors for conversions from one basis or unit of measurement to another shall be approved by the Contracting Officer.

1.6 UNIT PRICES

Payment items for the work of this contract are listed in the BIDDING SCHEDULE and described below. The payment items provided for on the bidding schedule embody the majority of the work; but the work descriptions provided below do not specifically discuss all incidental work required to complete the contract work.

1.6.1 Bonds

Bonds will be paid for on a job basis in accordance with FAR 52.232-5.

1.6.2 Tank Removal/Relocation

Tank Removal/Relocation will not be measured for payment. Payment will be made on a job basis, complete. This work includes removing all three tanks and associated ancillary equipment, cleaning the interior and exterior of the tanks, and inerting/purging the tanks.

1.6.3 Asbestos Removal

Asbestos Removal will not be measured for payment. Payment will be made on a job basis, complete.

1.6.4 Lead Abatement/Disposal

Lead abatement and disposal will not be measured for payment. Payment will be made on a job basis, complete.

1.6.5 General Demolition and Removal

General Demolition and Removal of items identified on the drawings and not covered under other bid items will not be measured for payment. Payment will be made on a job basis, complete.

1.6.6 Demolition of Existing Central Control Station

Demolition of existing central control station will not be measured for payment. Payment will be made on a job basis, complete.

1.6.7 Demolition of Storage and Maintenance Buildings

Demolition of the maintenance building and the shop building will not be measured for payment. Payment will be made on a job basis, complete.

1.6.8 Demolition of Observation Platform and Restroom

Demolition of the observation deck/visitor restroom will not be measured for payment. Payment will be made on a job basis, complete.

1.6.9 Building General

Building General will not be measured for payment and shall be performed on a job basis (JB) complete. The work described in the following sections shall be included under Building General:

- 07131 Elastomeric Membrane Waterproofing
- 07413 Metal Roofing
- 07810 Spray Applied Fireproofing
- 07840 Firestopping
- 08330 Overhead Coiling Doors
- 09510 Accoustical Ceilings
- 09720 Wall Coverings
- 10100 Visual Display Boards
- 10160 Toilet Enclosures
- 10670 Shelving and Work Benches
- 10900 Lockers, Metal
- 11400 Kitchen Appliances
- 12491 Vertical Blinds
- 12494 Window Shades
- 15410 Precast Shower Receptors and Janitor's Sink

Additionally, other work shall be included under Building General which applies to the new central control station and is not paid for elsewhere. Such work includes, but is not limited to work described in the following sections:

- 02300 Earthwork
- 05400 Metal Framing
- 06100 Rough Carpentry
- 06200 Finish Carpentry
- 07220 Insulation
- 07530 Elastomeric Roofing (EPDM)
- 07900 Chaulking and Sealing

- 08110 Steel Doors and Frames
- 08210 Wood Doors
- 08520 Windows and Aluminum Doors
- 08700 Builders Hardware
- 08810 Glass and Glazing
- 09250 Gypsum Wallboard
- 09310 Tile Work
- 09411 Bonded Terrazzo
- 09900 Painting
- 10440 Interior Signage
- 10520 Fire Protection Equipment
- 10800 Toilet and Bath Accessories

1.6.10 H Piles

1.6.10.1 Estimated Pile Lengths

Estimated piling length is based on TABLE 1. The actual pile penetration shall be determined by driving resistance. The Contractor shall determine order lengths for piles.

1.6.10.2 Variations in Pile Quantities

The estimated quantities listed in the Table and in the unit price schedule are given for bidding purposes only. The Contracting officer shall have the right to increase or decrease the linear footage of piles to be furnished and installed by changing the pile locations or elevations, requiring the installation of additional piles.

1.6.10.3 Measurement

Piles will be measured from cut off elevations to final tip elevations. No additional payment will be made for: damaged, rejected, or misplaced piles; withdrawn piles; backdriving; cutting off piles; splicing; build-ups; or any cut off length of piles.

1.6.10.4 Payment

a. Steel H-Pile Furnished. Piles will be measured for payment by the linear foot in place. Payment will constitute full compensation for furnishing and delivering the materials.

b. Steel H-Pile Driving. Piles will be measured for payment by the linear foot in place. This work includes handling, driving, measuring heave, redriving heaved piles, cutting off piles at the cutoff elevation, compiling and submitting pile driving records, backfilling voids around piles, pile tips, and any other items incidental to driving piles to the required elevations.

c. Pulled Piles. Piles pulled at the direction of the Contracting Officer and found to be undamaged will be paid as follows:

- 1) The cost of furnishing and delivering initial piles will be paid for at the applicable contract unit price for the payment

item for furnishing and delivering piles covered in PARAGRAPH:
Steel H-Pile Furnished.

2) The cost of driving initial piles will be paid for at the applicable contract unit price for the payment item for driving piles covered in PARAGRAPH: Steel H-Pile Driving.

3) The cost of pulling piles will be paid for at twice the applicable contract unit price for the payment item for driving piles covered in PARAGRAPH: Steel H-Pile Driving.

4) If the Contracting Officer determines that the pulled piles are suitable for reuse, the pulled pile shall be redriven without additional payment for furnishing pile. If the pulled piles are not suitable for reuse, extra piles shall be furnished and delivered at the applicable contract unit price for the payment item for furnishing and delivering piles covered in PARAGRAPH: Steel H-Pile Furnished.

TABLE 1. PILE SCHEDULE FOR BIDDING

<u>PILE LOCATION NUMBERS</u>	<u>TOP OF PILE</u>	<u>TIP OF PILE</u>	<u>INDIVIDUAL NUMBER OF PILES</u>	<u>INDIVIDUAL LENGTH OF PILES (ft)</u>	<u>TOTAL LENGTH OF PILES (ft)</u>	<u>AXIAL DESIGN LOAD (kips)*</u>
1 to 12	629.5	580	12	49.5	594	425
16, 17	638	580	2	58	116	420
21, 26, 27,	638	580	3	58	174	420
31	640	580	1	60	60	420
35, 40, 41, 45	640	580	4	60	240	420
30	640	580	1	60	60	370
34, 38, 39, 44	640	580	4	60	240	370
14, 15	638	580	2	58	116	360
20, 24, 25	638	580	3	58	174	360
18	638	580	1	58	58	330
22, 28, 32	638	580	3	58	174	330
36, 42, 46	638	580	3	58	174	330
65 - 70	638	580	6	58	348	260
48, 49, 52 53, 54, 55 58, 59	640	580	8	60	480	260
13	638	580	1	58	58	250
19, 23, 29	638	580	3	58	174	250
33, 37, 43, 47, 50, 51 56, 57, 60	638	580	9	58	522	250
61, 62, 63 64, 71, 72	638	580	6	58	348	230
TOTALS			<hr/> 72		<hr/> 4,110	

* Includes a factor of safety of 2.5

5) The cost of redriving piles will be paid for at the applicable contract unit price for the payment item for driving piles covered in PARAGRAPH: Steel H-Pile Driving.

1.6.11 not used

1.6.12 PDA Testing

The pile driving analyzer testing will not be measured for payment. Payment will be made on a job basis, for the work complete with report.

1.6.13 Building Mechanical

Building mechanical will not be measured for payment. Payment will be made on a job basis, complete.

1.6.14 Building Plumbing

Building plumbing for the new Central Control Station will not be measured for payment. Payment will be made on a job basis, complete.

1.6.15 Building Electrical

Building electrical will not be measured for payment. Payment will be made on a job basis, complete. The building electrical bid item shall include furnishing and installing of electric raceway, conductors, wiring devices and associated equipment related to operating the building. The work shall be complete with supporting devices and other appurtenances as required.

1.6.16 Building Lighting

Building lighting will not be measured for payment. Payment will be made on a job basis, complete. The work shall consist of furnishing and installing lighting fixtures complete with lamps, supporting devices and other appurtenances. Building lighting shall include all light fixtures mounted on and within the buildings.

1.6.17 Building Cast-in-Place Concrete

All cast-in-place concrete used for the new Central Control Station as shown on the drawings will not be measured for payment. Payment will be made on a job basis, complete.

1.6.18 Building Precast Concrete

Precast concrete used in the New Central Control Station will not be measured for payment. Payment will be made on a job basis, complete.

1.6.19 Building Masonry

Masonry will not be measured for payment. Payment for masonry on the new central control station will be paid for on a job basis, complete. Other masonry work and shall be performed by the Contractor as a part of, and included in, the contract price for other bid items.

1.6.20 Building Structural Steel and Steel Deck

Structural steel in the New Central Control Station will not be measured for payment. Payment will be made on a job basis, complete.

1.6.21 Common Excavation

Common excavation will not be measured for payment. Payment will be made on a job basis, complete. Common excavation shall be considered as the excavation of material between the indicated finish lines and overlying existing surface. No consideration will be given to the nature of the materials.

1.6.22 Select Granular Fill

Select Granular fill will not be measured for payment. Payment will be made on a job basis, complete.

1.6.23 Riprap

Payment will be by the ton (TN)(2,000 pounds avoirdupois) of material acceptably placed within the tolerances specified. Price(s) and payment(s) will be made at the contract unit price and will constitute full compensation for furnishing all plant, labor, materials and equipment and constructing the work complete in place as specified. No separate payment will be made for stockpiling materials.

1.6.24 Storm Sewer (18" RCP)

Reinforced concrete pipe shall be measured for payment by the lineal foot, in place, including bends and fittings along the centerline of the pipe. Terminal points of measurement will be the pipe end at free outlets; the point of junction with in place pipe; or the center of manholes, catch basins or multiple junction points as they apply. Connecting to existing pipes will not be measured for payment and will be considered incidental to the work, except where a bid item is provided for a concrete collar. Bedding material, insulation, joint bands, and appurtenances will not be measured for payment and will be considered incidental to the pipe installation. Excavation shall be incidental in accordance with the SECTION: EXCAVATING, TRENCHING, AND BACKFILLING FOR UTILITY SYSTEMS.

1.6.25 End Sections, Manholes and Catch Basins

End Sections, Manholes and Catch Basins will not be measured for payment. Payment will be made on a job basis, complete. The work shall include frames and gratings or covers, excavation, and backfilling.

1.6.26 Aggregate Base

Aggregate base located beneath bituminous roads, parking lots and concrete curb and gutter will be measured for payment by the cubic yard in place, within neat lines and to the compacted thicknesses shown on the drawings. Aggregate base in other locations will not be measured for payment and

shall be considered incidental to the bid item to which it pertains. No payment will be made for overfill due to surface or subgrade variations. Material wasted, unused, rejected, or used for the convenience of the Contractor will not be measured for payment.

1.6.27 Bituminous base course

Bituminous base course will be measured for payment by the square yard in place.

1.6.28 Bituminous surface course and tack coat

Bituminous surface course and tack coat will be measured for payment by the square yard in place.

1.6.29 Pavement Marking

Pavement Markings will not be measured for payment. Payment will be made on a job basis, complete.

1.6.30 Tapered Concrete Paving (8-12")

Cast-in-place concrete used for the 8-inch concrete paving as shown on the drawings will be measured for payment by the square yard, in place within neat lines as indicated on the drawings. Bollards are considered incidental to this bid item.

1.6.31 Concrete sidewalks (4")

Concrete sidewalks will be measured for payment by the square yard, in place within neat lines as indicated on the drawings.

1.6.32 Curb and gutter

Curb and gutter will be measured for payment by the lineal foot in place.

1.6.33 Reinforced Grass Pavers

The Reinforced Grass Pavers shall be measured for payment by the square yard of satisfactorily installed paver surface. Payment will be full compensation for completing the work in place, including all incidentals such as subgrade preparation, bedding sand, and edge restraint. Placement of sod will be paid for separately.

1.6.34 Underground Sprinkler System

The Underground Sprinkler System will not be measured for payment. Payment will be made on a job basis, complete.

1.6.35 Chain Link Fence

The work under this section will not be measured for payment. Payment will be made on a job basis, complete, including gates and other appurtenant items.

1.6.36 Segmental Concrete Retaining Walls

Measurement of segmental retaining wall for payment will be made on the basis of the face area in the vertical plane of segmental concrete units. The pay lines of the structure will be neat lines taken off the approved shop drawings; and will extend from the block-leveling pad interface to the top of wall, excluding any fencing or barrier. Payment will be made at the respective unit price per square foot listed on the bidding schedule. Payment will be full compensation for engineering services, excavation and preparatory work, and furnishing all material, labor and equipment to complete the work.

1.6.37 not used

1.6.38 Site Furnishings

Site Furnishings will not be measured for payment. Payment will be made on a job basis, complete.

1.6.39 Sod

Sod will be measured for payment by the square yard in place. The area measured for payment will be limited to the areas designated for sod as shown on the drawings. The work shall include placement of topsoil regardless of source, amendments, placement of sod, and care of turf. Restoration by sodding of disturbed areas not designated on the drawings will not be measured for payment and shall be incidental to the work being performed.

1.6.40 Landscaping

Landscaping will not be measured for payment. Payment will be made on a job basis, complete. Payment will constitute full compensation for all material, grading, installation of trees, shrubs and ground covers, watering, maintenance, and replacement.

1.6.41 Guidewall Post Tensioned Bars

Guidewall post tensioned bars will not be measured for payment and shall be performed on a job basis, complete. The work shall include, but not be limited to, saw cutting and removal of concrete, installation of post tensioned bars and incidental materials, placement of new concrete, removal and reinstallation of mooring posts, removal and reinstallation of interferences, and load cells.

1.6.42 Transformer and Dumpster Pads

The transformer and dumpster pads will not be measured for payment. Payment will be made on a job basis, complete.

1.6.43 Fuel Storage Pad

The fuel storage pad will not be measured for payment. Payment will be

made on a job basis, complete.

1.6.44 Control Stand Curb Removal and Closure

Control stands 3 through 6 concrete curb removal and closure will not be measured for payment. Payment will be made on a job basis, complete. Payment shall include all related work including, but not limited to, concrete removal, concrete closure slab placement and reinforcing. Cost for removal of structures or enclosures on the control stand curbs shall be included in the price bid for Demolition and Removal.

1.6.45 Tainter Valve Recess Modifications

Tainter Valve Recess Modifications will not be measured for payment. Payment will be made on a job basis, complete. Payment shall include all related work including, but not limited to, concrete removal, concrete placement and reinforcing, structural steel, and new grating.

1.6.46 Downstream Control Stand

The Downstream Control Stand will not be measured for payment. Payment will be made on a job basis, complete. The work shall include a complete building including associated mechanical equipment.

1.6.47 Concrete repair, horizontal

Concrete repair, horizontal, shall be measured by the square foot, and payment shall constitute full compensation for the cost of equipment, materials, and labor for the complete concrete removal and installation for repair thicknesses from 4 inches up to and including 6 inches. Payment for the portion of concrete repair over 6 inches in thickness shall be paid for in accordance with the CONTRACT CLAUSE: DIFFERING SITE CONDITIONS.

1.6.48 Concrete Repair for Closure of Manholes

Concrete Repair for Closure of Manholes will not be measured for payment. Payment will be made on a job basis, complete.

1.6.49 Concrete repair, light standard support

Concrete repair, light standard support, shall be measured by the cubic foot, and payment shall constitute full compensation for the cost of equipment, materials, and labor for the complete concrete removal and installation.

1.6.50 Concrete repair, vertical (FRAPMC)

Concrete repair, vertical (FRAPMC), shall be measured by the cubic foot, and payment shall constitute full compensation for the cost of equipment, material, and labor for the complete concrete removal and installation.

1.6.51 Polymer Modified Mortar

Polymer Modified Mortar shall be measured by the square foot, and payment

shall constitute full compensation for the cost of equipment, material, and labor for the complete installation.

1.6.52 Joint sealant, vertical

Joint sealant, vertical, shall be measured by the linear foot, and payment shall constitute full compensation for the cost of equipment, material, and labor for the complete installation of the oakum, joint filler, backer rod, and sealant in the vertical monolith joints.

1.6.53 Joint sealant, horizontal

Joint sealant, horizontal, shall be measured by the linear foot, and payment shall constitute full compensation for all equipment, material, and labor for the complete installation.

1.6.54 Crack sealing, horizontal

Crack sealing, horizontal, shall be measured by the linear foot, and payment shall constitute full compensation for all equipment material, and labor for the complete installation.

1.6.55 Tow Haulage Unit Modifications/Shelter

The tow haulage unit Modifications/Shelter will not be measured for payment. Payment will be made on a job basis, complete.

1.6.56 Exterior Sign Supports/Reinstallation

Exterior Sign Supports/Reinstallation will not be measured for payment. Payment will be made on a job basis, complete, for exterior repair and relocation of existing signage as shown.

1.6.57 Lock Wall Manhole Grating

Grating installed on the lock walls at the manholes indicated will be measured and paid for by the square foot in place and complete.

1.6.58 Steel Grating

Steel grating will be measured and paid for by the square foot (SF) in place and complete.

1.6.59 Lock Wall Armor

Metal armor on the guide walls will be measured for payment by the cumulative weight in pounds of armor installed.

1.6.60 Trench Covers

Trench Covers will not be measured for payment. Payment will be made on a job basis, complete.

1.6.61 Lock Handrails

Lock Handrails, 2-inch and 1.5-inch, located on the lock wall will be measured and paid for by the lineal foot in place and complete, from center to center of posts. The Pleasure Craft Tie-Off Hook Brackets shall be considered incidental to these bid items.

1.6.62 Central Control Station Handrails

Central Control Station Handrails will be measured and paid for by the lineal foot, in place and complete, from center to center of posts.

1.6.63 Spare Handrail Components

Spare Handrail Components will not be measured for payment. Payment will be made on a job basis, complete and delivered.

1.6.64 Dam Pier House Door Replacement

Replacement of doors on the dam pier houses will not be measured for payment. Payment will be made on a job basis, complete.

1.6.65 Flagpoles

Flagpoles will be measured for payment by each unit.

1.6.66 Water Supply System

Water supply system will not be measured for payment. Payment will be made on a job basis, complete. The work shall include all costs of material, excavation, including rock trenching, shoring, backfilling, performing the required testing, disinfecting, furnishing and installing pipe and fittings, connections, cleanout, and all other incidental work required to provide the systems complete and functioning. The work shall include all external water supply pipe outside the buildings, including relocation of a fire hydrant.

1.6.67 Auxiliary Water System

The auxiliary water system will not be measured for payment. Payment will be made on a job basis, complete.

1.6.68 Electric Overhead Monorail Hoist and Beam

The electric overhead monorail hoist and beam will not be measured for payment. Payment will be made on a job basis, complete.

1.6.69 Sanitary Sewer System

The sanitary system, including the on-site septic system, will not be measured for payment. Payment will be made on a job basis, complete. The work shall include all costs of material, excavation, including rock trenching, shoring, backfilling, performing the required testing, furnishing and installing pipe and fittings, connections, cleanout, and all other incidental work required to provide the systems complete and

functioning.

1.6.70 Fuel Oil System

The fuel oil system will not be measured for payment. Payment will be made on a job basis, complete.

1.6.71 Compressed Air Bubbler System

The compressed air bubbler system will not be measured for payment. Payment will be made on a job basis, complete.

1.6.72 Electrical Removals

Electrical removals will not be measured for payment. Payment will be made on a job basis, complete. The contract price for electrical removals shall include work related to phased removal of existing electrical equipment; the phased removal or abandonment of existing wiring; the removal of electrical equipment within the existing Central Control Station (CCS) and other site buildings; and all related general, mechanical, and electrical construction.

1.6.73 Temporary Wiring

Temporary wiring will not be measured for payment. Payment will be made on a job basis, complete. The contract price for temporary wiring shall include work related to keep the lock operating until the permanent wiring and new instrumentation is installed and functional. The work includes, but is not limited to, maintaining, augmenting and relocating controls and wiring installed under the recently completed machinery installation contract; providing power and control wiring; providing lighting and communications; maintaining year round the existing feeder to the dam until the permanent feeders are operational; providing and maintaining temporary circuits from the gauge houses to the existing display units for river level monitoring; removal of any temporary equipment and wiring installed under this contract; and the restoration and refinishing of areas disturbed by the work.

1.6.74 Power Distribution Equipment

The contract price for power distribution equipment shall include furnishing and installing the service entrance switchboard, panelboards, and other power distribution equipment complete with supporting devices and appurtenances. The handling, installing, connecting and testing of certain Government-furnished equipment, such as distribution switchboard MDP-1, the standby generator and associated equipment, and the automatic transfer switch, are part of the work under this section. Payment for power distribution equipment will be made on a job basis, complete.

1.6.75 Lock Electrical

Lock electrical will not be measured for payment. Payment will be made on a job basis, complete. The lock electrical bid item shall include furnishing and installing of electric raceway, conductors, wiring devices

and associated equipment related to operating the navigation lock. The handling, installation, wiring, testing and making fully operational certain Government-furnished equipment such as motor control centers MCC-1 and MCC-2 and control stands 1CS and 2CS is also part of the Contractor's work under this Section.

1.6.76 Lock and Site Lighting

Lock and Site lighting will not be measured for payment. Payment will be made on a job basis, complete. The work shall consist of furnishing and installing lighting fixtures complete with lamps, supporting devices and other appurtenances. Lock and site lighting shall include all light fixtures used for navigation, and illumination of the site esplanade and lock area, including illumination of signage.

1.6.77 Fire Detection System

The Fire Detection System will not be measured for payment. Payment will be made on a job basis, complete.

1.6.78 Communication System

The Communication System will not be measured for payment. Payment will be made on a job basis, complete.

1.6.79 Modifications to Existing Underpass

The modifications to the pedestrian underpass below the railroad will not be measured for payment. Payment will be made on a job basis, complete. Work shall include, but not be limited to, refurbishment of existing windows, new windows, relocation of door, electrical modifications, and concrete rehabilitation.

1.6.80 New Restroom Building

The new restroom building will not be measured for payment. Payment will be made on a job basis, complete.

1.6.81 Epoxy-Injected Crack Repair

Epoxy injection for crack repair will be measured for payment by the lineal foot of crack measured on a smooth line. Payment will be made at the contract unit price and will constitute full compensation for furnishing the materials and constructing the work complete in place, including preparing the crack, sealing the crack, injecting the epoxy, and incidental work.

1.6.82 Railroad Easement Work

Work within the railroad right of way will not be measured for payment. Payment will be made on a job basis. Work shall include: (1) the pavement on the new entrance road (consisting of bituminous, aggregate base, grading and subgrade preparation), (2) the new reinforced concrete pipe for drainage, (3) the sidewalk, curb and chain link fence at the visitor

parking lot, and (4) the pavement overlay on the old entrance road. The Contractor shall be responsible for payment of bills from the railroad for flagging and other protective services and devices during progress of the work.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

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SECTION 01320
PROJECT SCHEDULE

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-07 Schedules

Initial Project Schedule; GA. Periodic Updates; GA.

Five copies of the initial project schedule shall be submitted. Two copies of periodic project schedule updates shall be submitted.

SD-14 Samples

Software; FIO.

The Contractor shall furnish the Government copies of the scheduling software if required under paragraph COMPUTER SOFTWARE REQUIREMENTS.

1.2 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required project schedule reports.

PART 2 PRODUCTS

2.1 COMPUTER SOFTWARE REQUIREMENTS

The Contractor shall furnish the Government with the software to be used, unless waived by the Contracting Officer. The Contractor shall assist in installing the software in the Government resident office. The Contractor shall provide the software complete, including documentation and updates used in the Contractor's system. The software shall remain the property of the Contractor, but shall be in the possession of and for the exclusive use by the Government during the contract period. The Government shall have rights to install the software on 3 computers (resident office, area office, and district office).

PART 3 EXECUTION

3.1 GENERAL

Pursuant to the Contract Clause, SCHEDULES FOR CONSTRUCTION CONTRACTS (FAR 52.236-15), a project schedule as described below shall be prepared. The scheduling of work shall be the responsibility of the Contractor. Contractor management personnel shall actively participate in its development.

Subcontractors and suppliers working on the project shall contribute in developing and maintaining an accurate project schedule. The approved project schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of progress payments.

3.2 BASIS FOR PAYMENT

The project schedule shall be the basis for measuring Contractor progress. The Contracting Officer will use an approved project schedule to evaluate Contractor progress for payment purposes. In the case where project schedule revisions have been directed by the Contracting Officer and those revisions have not been included in the project schedule, then the Contracting Officer may hold retainage up to the maximum allowed by contract, each payment period, until the project schedule updates have been accepted.

3.3 SOFTWARE

Computer software systems utilized by the Contractor to produce the project schedule shall be capable of providing all requirements of this specification.

3.3.1 Use of the Critical Path Method

The project schedule shall clearly show the critical path. If a network analysis system is used, the Critical Path Method (CPM) of network calculation shall be used to generate the project schedule, provided in either the Precedence Diagram Method (PDM) or the Arrow Diagram Method (ADM).

3.3.2 Level of Detail Required

The project schedule shall include an appropriate level of detail. The Contracting Officer will use, but is not limited to, the following conditions to determine the appropriate level of detail to be used in the project schedule.

3.3.2.1 Activity Durations

The Contractor shall breakout lump-sum or sum-job contract line items into subcategories, or activities. The number of activities shall be sufficient to allow the progress to be accurately determined between payment periods.

3.3.2.2 Procurement Activities

Tasks related to the procurement of long lead materials or equipment shall be included as separate activities in the project schedule. Long lead materials and equipment are those materials that have a procurement cycle of over calendar 90 days. Examples of procurement process activities include, but are not limited to: submittals, approvals, procurement, fabrication, delivery, installation, start-up, and testing.

3.3.2.3 Government Activities

Government and other agency activities that could impact progress shall be shown. These activities include, but are not limited to: approvals, inspections, utility tie-in, Government furnished property, and notice to proceed for phasing requirements.

3.3.2.4 Responsibility

All activities shall be identified in the project schedule by the party (Prime Contractor, subcontractor, Government agency, etc.) responsible to perform the work. Activities shall not belong to more than one responsible party. The responsible party for each activity shall be identified by the Responsibility Code.

3.3.2.5 Feature of Work

All activities shall be identified in the project schedule according to the feature of work to which the activity belongs. Feature of work refers, but is not limited to a work breakdown structure for the project schedule. The feature of work for each activity shall be identified by the Feature of Work Code.

3.3.3 Scheduled Project Completion

The schedule interval shall extend from notice to proceed to the contract completion date. The notice to proceed date shall be taken as the date that notice to proceed was acknowledged.

3.3.3.1 Constraint of Last Activity

Completion of the last activity in the project schedule shall be constrained by the contract completion date. If the early finish of the last activity falls after the contract completion date, then the critical path shall show a negative float.

3.3.3.2 Early Project Completion

If the project schedule shows project completion prior to the contract completion date, the Contractor shall identify activities that have been accelerated and activities that are scheduled in parallel to support the "early" completion. The Contractor shall assist the Contracting Officer in evaluating the Contractor's ability to actually complete prior to the contract period.

3.3.4 Interim Completion Dates

Contractually specified interim completion dates shall also be constrained to show negative float if the early finish date of the last activity in that phase falls after the interim completion date.

3.3.5 Default Progress Data Disallowed

The Contractor shall document the actual start and actual finish dates on the daily quality control report for every in-progress or completed activity and ensure that the data contained on the daily quality control reports is the sole basis for project schedule updating. Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in CPM scheduling software systems. Actual start and finish dates on the CPM schedule shall match those dates provided from Contractor quality control reports.

3.3.6 Out-of-Sequence Progress

The Contracting Officer shall be notified prior to work on any activities

that are out-of-sequence with the project schedule. The Contractor shall update the project schedule to correct any out-of-sequence work.

3.3.7 Extended Non-Work Periods

Non-work periods of over 5 working days shall be identified by addition of activities that represent the delays.

3.3.8 Negative Lags

Lag durations contained in the project schedule shall not have a negative value.

3.4 PROJECT SCHEDULE SUBMISSIONS

The Contractor shall provide the submissions as described below.

3.4.1 Initial Project Schedule Submission

The project schedule shall provide a reasonable sequence of activities which represent work through the entire contract period and shall be at a reasonable level of detail.

3.4.2 Periodic Updates

Based on the result of progress meetings, the Contractor shall submit periodic project schedule updates. The Contractor shall furnish information and project schedule data, which in the judgement of the Contracting Officer, is necessary for verifying the Contractor's progress.

3.4.3 Standard Activity Coding Dictionary

The Contractor shall submit, with the initial project schedule, a coding scheme that shall be used throughout the project schedule for all activity codes contained in the project schedule. The coding scheme submitted shall list the values for each activity code category and translate those values into project specific designations. For example, a responsibility code value, "ELE", may be identified as "Electrical Subcontractor". Activity code values shall represent the same information throughout the duration of the contract.

3.5 SUBMISSION REQUIREMENTS

The following items shall be submitted for each project schedule submission:

3.5.1 Earnings Report

The Contractor shall submit a compilation of the Contractor's Total Earnings on the project through the most recent Monthly Progress Meeting. Activities shall be grouped by contract line item. The printed report shall contain, for each contract line item: activity number, activity description, original budgeted amount, total quantity, quantity to date, percent complete (based on cost), and earnings to date. A total project percent complete shall also be provided. If necessary to substantiate partial payment and requested by the Contracting Officer, the earnings report shall detail activities within a contract line item.

3.5.2 Network Diagram

A network diagram shall be required on the initial project schedule submission and on periodic submissions when requested by the Contracting Officer (not less than quarterly). The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The network diagram shall be constructed to meet the following conditions:

- a. Continuous Flow. Diagrams shall show a continuous flow from left to right with no arrows from right to left. The activity or event number, description, duration, and estimated earned value shall be shown on the diagram.
- b. Project Milestone Dates. Dates shall be shown on the diagram for start of project, any contract required interim completion dates, and contract completion dates.
- c. Critical Path. The critical path shall be clearly shown.
- d. Banding. Activities shall be grouped to assist in the understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.
- e. S-Curves. Earnings curves showing projected early and late earnings and earnings to date.

3.6 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly onsite meeting or other regular intervals mutually agreed to at the preconstruction conference. During this meeting the Contractor shall describe, on an activity by activity basis, all proposed revisions and adjustments to the project schedule required to reflect the current status of the project.

3.6.1 Meeting Attendance

The Contractor's project manager and the Contractor's authorized representative responsible for preparation of the project schedule shall attend the regular progress meeting.

3.6.2 Update Submission Following Progress Meeting

A complete update of the project schedule containing all approved progress, revisions, and adjustments, based on the regular progress meeting, shall be submitted not later than 4 working days after every third monthly progress meeting.

3.6.3 Progress Meeting Contents

Update information, including actual start dates, actual finish dates, remaining durations, and cost-to-date shall be subject to the approval of the Contracting Officer. The Contractor shall address the following minimum set of items, on an activity by activity basis, during each progress meeting.

- a. Start and Finish Dates. The actual start and actual finish dates for each completed activity. The actual start and projected finish dates for each activity in-progress.
- b. Cost Completion. The earnings for each activity started. Payment

will be based on earnings for each in-progress or completed activity. Payment for individual activities will not be made for work that contains defects.

c. Project Schedule Changes. All changes pertaining to notice to proceed on change orders, change orders to be incorporated into the project schedule, Contractor proposed changes in work sequence, corrections to project schedule for out-of-sequence progress, lag durations, and other changes that have been made pursuant to contract provisions shall be specifically identified and discussed.

d. Other Changes. Other changes required due to delays in completion of any activity or group of activities include unusually severe weather, product procurement, or other delays or work stoppages which make re-planning the work necessary.

3.7 REQUESTS FOR TIME EXTENSIONS

In the event the Contractor requests an extension of the contract completion date, the Contractor shall furnish such justification, project schedule data and supporting evidence as the Contracting Officer may deem necessary for a determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract.

3.7.1 Justification of Delay

The project schedule shall clearly display that the Contractor has used, in full, all the float time available for the work involved with this request.

The Contracting Officer's determination as to the number of allowable days of contract extension shall be based upon an approved project schedule and other factual information. Delays that are caused by the Contractor's own actions will not be a cause for a time extension to the contract completion date.

3.7.2 Submission Requirements

The Contractor shall submit a justification in accordance with the requirements of other appropriate contract clauses and shall include, as a minimum:

- a. A list of affected activities, with their associated project schedule activity number.
- b. A brief explanation of the cause(s) of the change.
- c. An analysis of the overall impact of the changes proposed.
- d. If requested by the Contracting Officer, the Contractor shall provide an interim project schedule update with revised activities.

3.8 DIRECTED CHANGES

If notice to proceed is issued for undefinitized work, the Contractor shall submit proposed project schedule revisions to the Contracting Officer within 14 calendar days of the notice to proceed being issued. The proposed revisions to the project schedule must be approved by the Contracting Officer prior to inclusion of those changes within the project schedule. If the Contractor fails to submit the proposed revisions, the Contracting Officer may furnish the Contractor suggested revisions to the

project schedule; and the Contractor shall update the project schedule with the Contracting Officer's revisions until a mutual agreement in the revisions is reached.

3.9 OWNERSHIP OF FLOAT

Float available in the project schedule, at any time, shall not be considered for the exclusive use of either the Government or the Contractor.

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SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers as follows:

SD-01 Data

SD-04 Drawings

SD-06 Instructions

SD-07 Schedules

SD-08 Statements

SD-09 Reports

SD-13 Certificates

SD-14 Samples

SD-18 Records

SD-19 Operation and Maintenance Manuals

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.2.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.3 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the CQC requirements of this contract is responsible for dimensions, the design of adequate connections

and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.6 MEASUREMENT AND PAYMENT

The work of this section will not be measured for payment. The Contractor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract items.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER (ENG FORM 4288)

At the end of this section is one set of ENG Form 4288 listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. If requested, the Contractor will also be

given the submittal register as a diskette containing the computerized ENG Form 4288 and instructions on the use of the diskette. Columns "d" through "r" have been completed by the Government; the Contractor shall complete columns "a" and "s" through "u" and submit the forms to the Contracting Officer for approval within 7 calendar days after Notice to Proceed. The Contractor shall keep the submittal register up-to-date and shall submit it to the Government together with the monthly payment request. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals. The submittal register shall provide for a reasonable timely distribution of shop drawings as they are prepared (particularly within a specific discipline, i.e.: structural, mechanical).

3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

3.5 SUBMITTAL PROCEDURE

3.5.1 Submittal Copies

The Contractor shall submit 6 copies of each submittal (both government approved and for information only) unless otherwise indicated. Each transmittal shall address only one submittal item. Transmittals returned for resubmission shall be resubmitted in their entirety. When approved by the Contracting Officer, routine test reports and delivery tickets may be submitted with daily quality control reports in place of following submittal procedures under this section.

3.5.2 Schedule

Shop drawings shall be submitted with ample time to secure Government approval prior to the time the items covered thereby are to be delivered to the site. Additional time should be allowed for possible resubmittal. Materials fabricated or delivered without Government approval of the shop drawing will be subject to rejection. All submittals shall be made prior to commencement of applicable work, and allow adequate time for government review acceptable to the Contracting Officer.

3.5.3 Shop Drawings

Shop drawings shall be reproductions on high quality paper with clear

legible print. Drawings shall generally be bordered a minimum of one inch and trimmed to neat lines. Shop drawing quality will be subject to approval. Each shop drawing, including catalog data, shall be identified with a title block including the name of the Contractor, contract number, name and location of project, and name of the item of work or structure to which the shop drawing applies. Catalog data, including specifications and full descriptive matter, may be submitted as shop drawings. Catalog data must be supplemented as necessary to include all pertinent data to verify conformance to the contract documents. When catalog data includes non applicable data, the applicable data shall be clearly indicated.

3.5.4 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Five copies of the submittal will be retained by the Contracting Officer and 1 copy of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

<p style="text-align: center;">CONTRACTOR</p> <p style="text-align: center;">(Firm Name)</p> <p>_____ Approved</p> <p>_____ Approved with corrections as noted on submittal data and/or attached sheets(s).</p> <p>SIGNATURE: _____</p> <p>TITLE: _____</p> <p>DATE: _____</p>
--

3.10 CONTRACTOR RECORD DRAWINGS

The Contractor shall maintain a separate set of marked-up full-scale contract drawings indicating as-built conditions. These drawings shall be maintained in a current condition at all times until completion of the work and shall be available for review by Government personnel at all times. All variations from the contract drawings, for whatever reason, including those occasioned by modifications, optional materials, and the required coordination between trades, shall be indicated. These variations shall be shown in the same general detail utilized in the contract drawings.

Revisions shall be shown on all drawings and details related to the changed feature. These drawings shall be neatly prepared with clear legible print.

Deleted items shall be indicated in red and added items or changed locations shall be shown in green. These drawings shall be furnished to the Contracting Officer within 30 days after the required contract completion date.

3.10.1 As-Built Shop Drawings

The Contractor shall record changes to shop drawings to indicate as-built conditions. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted.

-- End of Section --

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE

(Read instructions on the reverse side prior to initiating this form)

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS

(This section will be initiated by the contractor)

TO:	FROM:	CONTRACT NO.	CHECK ONE: <input type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SEC. NO. (Cover only one section with each transmittal)	PROJECT TITLE AND LOCATION		CHECK ONE: THIS TRANSMITTAL IS FOR <input type="checkbox"/> FIO <input type="checkbox"/> GOV'T. APPROVAL

[illegible]

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (<i>List by Item No.</i>)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE
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INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- | | | | |
|------|--|-------|---|
| A -- | Approved as submitted. | E -- | Disapproved (See attached). |
| B -- | Approved, except as noted on drawings. | F -- | Receipt acknowledged. |
| C -- | Approved, except as noted on drawings.
Refer to attached sheet resubmission required. | FX -- | Receipt acknowledged, does not comply
as noted with contract requirements. |
| D -- | Will be returned by separate correspondence. | G -- | Other (Specify) |
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

SUBMITTAL REGISTER

(ER 415 1-10)

CONTRACT NO.	
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TITLE AND LOCATION

LOCK8 STAGE2 VOLUME 1

CONTRACTOR

SPECIFICATION SECTION

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SUBMITTAL REGISTER

(ER 415 1-10)

CONTRACT NO.	
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SUBMITTAL REGISTER

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SUBMITTAL REGISTER

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SUBMITTAL REGISTER

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SUBMITTAL REGISTER

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SUBMITTAL REGISTER

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CONTRACT NO.

TITLE AND LOCATION

CONTRACTOR

SPECIFICATION SECTION

LOCK8 STAGE 2 VOLUME 2

15950

ACTIVITY NO	TRANSMITTAL NO.	ITEM NO	SPECIFICATION PARAGRAPH NUMBER	DESCRIPTION OF ITEM SUBMITTED	TYPE OF SUBMITTAL												CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		GOVERNMENT ACTION		REMARKS	
					SUBMITTAL													SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE	SUBMIT TO GOVERNMENT	CODE	DATE		
					DESIGN	CONSTRUCTION	INSTALLATION	OPERATION	MAINTENANCE	REPAIR	REPLACEMENT	REWORK	REVISION	REWORK	REVISION	REWORK										REVISION
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.	r.	s.	t.	u.	v.	w.	x.	y.	z.	aa.
		1.2		Spare Parts Data	X										X											
		1.2		HVAC Shop Drawings	X										X											
		1.2		Testing and Balancing					X						X											
		1.2		Commissioning Procedures					X						X											
		1.2		Commissioning Documentation for HVAC Control System					X						X											
		1.2		Certificates of Compliance							X				X											
		1.2		Service Organization									X		X											
		1.2		Operation and Maintenance Manual										X	X											

SUBMITTAL REGISTER

(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION

CONTRACTOR

SPECIFICATION SECTION

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16100

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SUBMITTAL REGISTER

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SECTION 01410

ENVIRONMENT PROTECTION

1.1 GENERAL REQUIREMENTS

The Contractor shall perform the work minimizing environmental pollution and damage as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract.

1.1.1 Subcontractors

The Contractor shall insure that its subcontractors comply with the requirements of this section.

1.1.2 Definitions

For the purpose of this specification, environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic, cultural, and/or historical purposes. The control of environmental pollution and damage requires consideration of air, water, and land, and includes management of visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants.

1.2 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following items shall be submitted in accordance with SECTION 01330: SUBMITTAL PROCEDURES.

SD-08 Statements

Environmental Protection Plan; GA.

The environmental protection plan shall be prepared in accordance with Paragraph: Environmental Protection Plan.

1.3 ENVIRONMENTAL PROTECTION PLAN

1.3.1 Implementation.

Prior to ordering required materials/equipment or commencing construction work, the Contractor shall:

- a. Submit to the Contracting Officer an acceptable written Environmental Protection Plan;

- b. Obtain the Contracting Officer's written acceptance of the Environmental Protection Plan; and
- c. Meet with representatives of the Contracting Officer for the purpose of developing an understanding of the requirements and methods of administration of the Contractor's Environmental Protection Plan.

1.3.2 Compliance.

Notwithstanding the requirements of this section and not withstanding approval by the Contracting Officer of the Contractor's Environmental Protection Plan, nothing herein shall be construed as relieving the Contractor of all applicable Federal, State, and local environmental protection laws and regulations.

1.3.3 Contents.

The environmental protection plan shall include, but shall not be limited to, the following:

- a. Name(s) of person(s) within the Contractor's on-site organization who is(are) responsible for ensuring that the Environmental Protection Plan is adhered to.
- b. Meeting times and personnel attendance for communication and notification of personnel and subcontractors regarding environmental requirements, and name(s) of person(s) responsible for this training.
- c. The Contractor shall prepare a listing of resources needing protection, (i.e., trees, shrubs, vines, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, and historical, archaeological, and cultural resources); and what methods will be used to protect these resources.
- d. Name(s) of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.
- e. Procedures to be implemented to provide the required environmental protection, to comply with the applicable laws and regulations, and to correct pollution due to accident, natural causes, or failure to follow the procedures of the environmental protection plan.
- f. Methods and locations for waste disposal. Licenses or permits shall be submitted for solid waste disposal sites that are not an operating commercial facility. Evidence of disposal facility acceptance shall be submitted for any hazardous or toxic waste.
- g. Drawings showing locations of any proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.
- h. Environmental monitoring plans for the job site, including land, water, air, and noise monitoring.
- i. Traffic control plans.

- j. Methods of protecting surface and ground water during construction activities.
- k. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.
- l. Drawing of borrow areas.
- m. Plans for restoration of landscape damage.

1.4 PERMITS

Permits obtained by the Government related to the work of this contract are attached in SECTION 00830: ATTACHMENTS, or referenced in SECTION 01000: GENERAL. The Contractor is responsible for obtaining all applicable permits or licenses (those not obtained by the Government). The Contractor shall be responsible for implementing the terms and requirements of the permits held by the Contractor or the Government. A copy of permits referenced in SECTION 01000: GENERAL are available for inspection in the Office of the District Engineer, Army Corps of Engineers Centre, 190 Fifth Street East, St. Paul, Minnesota 55101-1638.

1.5 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with the previously mentioned Federal, State or local laws or regulations, permits, and other elements of the Contractor's environmental protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of proposed corrective action and take such action when approved. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping (suspending) all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or costs or damages allowed to the Contractor for any such suspensions. Failure of the Contracting Officer to notify the Contractor of any noncompliance with Federal, State, or local laws or regulations does not relieve the Contractor of the obligation to be in conformance with those requirements.

1.6 PREVIOUSLY USED EQUIPMENT

The Contractor shall thoroughly clean all construction equipment previously used at other sites before it is brought into the work areas, ensuring that soil residuals are removed and that egg deposits from plant pests are not present; the Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

1.7 PAYMENT

No separate payment or direct payment will be made for work covered under this section and such work will be considered as a subsidiary obligation of the Contractor.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 ENVIRONMENTAL RESOURCES.

The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected during the entire period of this contract. The Contractor shall confine its activities to areas defined by the drawings and specifications.

3.2 LAND RESOURCES

Prior to the beginning of any construction, the Contractor shall identify all land resources to be preserved within the Contractor's work area. The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without permission from the Contracting Officer. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is permitted, the Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, earth or other material displaced into uncleared areas shall be removed.

3.2.1 Work Area Limits

Prior to any construction, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are to be saved and protected shall also be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques.

3.2.3 Unprotected Erodible Soils

Earthwork brought to final grade shall be finished as indicated. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in cases where the constructed feature obscures borrow areas, quarries, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the developed areas as approved by the Contracting Officer.

3.2.4 Disturbed Areas

The Contractor shall effectively prevent erosion and control sedimentation through approved methods including, but not limited to, the following:

- a. Retardation and control of runoff. Runoff from the construction site or from storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, berms, and by any measures required by area wide plans under the Clean Water Act.

- b. Erosion and sedimentation control devices. The Contractor shall construct or install temporary and permanent erosion and sedimentation control features as indicated or required. Berms, dikes, drains, sedimentation basins, grassing, and mulching shall be maintained until permanent drainage and erosion control facilities are completed and operative.
- c. Sediment basins. Sediment from construction areas shall be trapped in temporary or permanent sediment basins. The sediment basins shall be constructed in accordance with basin plans when shown on the drawings. The basins shall accommodate the runoff of a local 5 year storm, except that the design storm event required by the watershed district, watershed management board, or similar governing agency shall be used if available. After each storm, the basins shall be pumped dry and accumulated sediment shall be removed to maintain basin effectiveness. Overflow shall be controlled by paved weirs or by vertical overflow pipes. The collected topsoil sediment shall be reused for fill on the construction site, and/or stockpiled for use at another site. The Contractor shall institute effluent quality monitoring programs as required by State and local environmental agencies.

3.2.5 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made only when approved. Borrow areas shall be managed to minimize erosion and to prevent sediment from entering nearby waters. Spoil areas shall be managed and controlled to limit spoil intrusion into areas designated on the drawings and to prevent erosion of soil or sediment from entering nearby waters. Spoil areas shall be developed in accordance with the grading plan indicated on the drawings. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas from despoilment.

3.3 WATER RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation when such application may cause contamination of the fresh water reserve. Monitoring of water areas affected by construction shall be the Contractor's responsibility. All water areas affected by construction activities shall be monitored by the Contractor.

3.3.1 Washing and Curing Water

Waste waters directly derived from construction activities shall not be allowed to enter water areas. Waste waters shall be collected and placed in retention ponds where suspended material can be settled out or the water evaporates to separate pollutants from the water.

3.3.2 Cofferdam and Diversion Operations

Construction operations for dewatering, water return for hydraulic dredging, removal of cofferdams, tailrace excavation, and tunnel closure shall be controlled at all times to limit the impact of water turbidity on the

habitat for wildlife and on water quality for downstream use. The Contractor shall plan its operations and perform all work necessary to minimize adverse impact or violation of the water quality standards applicable to this contract.

3.3.3 Stream Crossings

Stream crossings shall be controlled during construction. Crossings shall provide movement of materials or equipment which do not violate water pollution control standards of Federal, State, or local governments.

3.3.4 Fish and Wildlife

The Contractor shall minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific attention along with measures for their protection shall be listed by the Contractor prior to beginning of construction operations.

3.4 AIR RESOURCES

Equipment operation and activities or processes performed by the Contractor in accomplishing the specified construction shall be in accordance with State air pollution statutes, rules, and regulations and all Federal emission and performance laws and standards. Ambient Air Quality Standards set by the Environmental Protection Agency shall be maintained. Monitoring of air quality shall be the Contractor's responsibility. All air areas affected by the construction activities shall be monitored by the Contractor.

3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, such as from asphaltic batch plants; shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause the air pollution standards to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs.

3.4.2 Hydrocarbons and Carbon Monoxide

Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and State allowable limits at all times.

3.4.3 Odors

Odors shall be controlled at all times for all construction activities, processing and preparation of materials.

3.4.4 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall use methods and devices to control noise emitted by equipment to within the levels specified in the "Safety and Health Requirements Manual" referenced in the clause "Accident Prevention" in SECTION: CONTRACT CLAUSES.

3.5 WASTE DISPOSAL

The Contracting Officer shall be informed of any waste disposal requirements identified during the work and not covered in the Environmental Protection Plan. Waste disposal plans shall be updated and submitted as required.

3.5.1 Solid Wastes

Solid wastes (excluding dredge material and clearing debris) shall be placed in containers which are emptied on a regular schedule. Handling and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. The Contractor shall comply with Federal, State, and local laws and regulations pertaining to the use of landfill areas.

3.5.2 Chemical Wastes

Chemical waste shall be stored in corrosion resistant containers, removed from the work areas, and disposed of in accordance with Federal, State, and local laws and regulations.

3.6 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Existing historical, archaeological, and cultural resources within the Contractor's work area will be so designated by the Contracting Officer if any have been identified. The Contractor shall take precautions to preserve all such resources as they existed at the time they were first pointed out. The Contractor shall provide and install protection for these resources and be responsible for their preservation during the life of the contract. If during excavation or other construction activities any previously unidentified or unanticipated resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rocks or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer.

3.7 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction.

3.8 RESTORATION OF LANDSCAPE DAMAGE

The Contractor shall restore all landscape features damaged or destroyed during construction operations outside the neat lines of project features. Such restoration shall be in accordance with the Environmental Protection

Plan. This work shall be accomplished at the Contractor's expense and at no additional cost to the Government.

3.9 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.10 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection. The training shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities, devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental pollution control.

-- End of Section --

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SECTION 01451

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(1996) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(1995b) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

The Contractor shall be responsible for the work for the work of this section, without any direct compensation being made other than the payment received for contract items.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with quality requirements specified in the contract. The project superintendent in this context shall mean the individual with the responsibility for the overall management of the project including quality and production.

3.2 QUALITY CONTROL PLAN

3.2.1 General

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause

titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent or someone higher in the Contractor's organization.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)
- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.

- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 10 calendar days prior to the Coordination Meeting.

During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure contract compliance. The Contractor shall provide a CQC organization which shall be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the contract. All CQC staff members shall be subject to acceptance by the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within

the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer with a minimum of 5 years experience in related duties on construction similar to this contract, or a person with a minimum of 15 years experience in related duties on construction work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

3.4.3 Additional Requirement

In addition to the above qualifications, the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered through the Government in the Minneapolis - St. Paul, Minnesota metropolitan area.

3.4.4 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.

- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 48 hours in advance of

beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

- g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a testing laboratory meeting the requirements listed under PARAGRAPH: CAPABILITY CHECK, or establish a testing laboratory at the project site meeting those requirements. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If

approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329. The Contractor shall submit a Quality Management Manual meeting the requirements of ASTM D 3740 and ASTM E 329 for each laboratory to be used, including on-site project laboratories.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$1000.00 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Contracting Officer. Coordination for each specific test, exact delivery location, and dates will be made with the Contracting Officer.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Special Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

- f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- g. Off-site surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

The following sample forms are enclosed at the end of this section:

- a. Construction Quality Control Management Report
- b. CQC Report
- c. Preparatory Phase Checklist
- d. Initial Phase Checklist

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.12 IMPLEMENTATION OF GOVERNMENT RESIDENT MANAGEMENT SYSTEM FOR CONTRACTOR QUALITY CONTROL OF CONTRACT

The Contractor shall utilize the Contractor Quality Control (CQC) module of the Resident Management System (RMS). The RMS-CQC module is a computer program which is executable on IBM compatible computers with 80386, 80486 and Pentium processors. This module includes a daily CQC reporting form which must be used. The module shall be completed to the satisfaction of the Contracting Officer prior to any contract payment and shall be updated as required. The Contractor shall complete module elements including:

- Prime Contractor staffing
- Subcontractor information, including name, address, trade, and point of contact
- Submittal information, including description, activity number, review period, expected procurement period
- Quality control testing
- Definable features of work
- Installed property listing
- Transfer property listing
- Pay activity and activity information
- Planned cumulative progress earnings
- Scheduled employee education required by the specifications
- Insurance expiration dates

3.12.1 Revisions

The Contractor shall acknowledge receipt of Government comments relating to the RMS-CQC module by specific number reference on his Daily CQC report. The daily CQC report shall also report when corrections are implemented.

3.12.2 Pay Activity

The sum of all pay activity values shall equal the contract amount. Bid items may include multiple activities, but activities shall only be assigned to one bid item.

-- End of Section --

CQC Report

1. Work performed today: (Indicate location and description of work performed by prime and/or subcontractors by letter in table above).

2. Results of control activities: (Indicate whether P - Preparatory, I - Initial, or F - Follow-up Phase. When a P or I meeting is conducted, complete attachment 1-A or 1-B, respectively. When network analysis system is used, identify work by use of I-J numbers)

3. Test performed as required by plans and/or specifications:

4. Material received:

CQC Report (Cont'd)

5. Submittals Reviewed:

(a) Submittal No.	(b) Spec/Plan Reference	(c) By Whom	(d) Action
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Off-site surveillance activities, including action taken:

7. Job safety: (Report violations; Corrective instructions given; Corrective actions taken).

8. Remarks: (Instructions received or given. Conflict(s) in Plans and/or Specifications)

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as noted above.

CQC System Manager

PREPARATORY PHASE CHECKLIST

Contract No.: _____ Date: _____
Definable Feature: _____ Spec Section: _____

Government Rep Notified _____ Hours in Advance Yes ____ No ____

I. Personnel Present.

	Name	Position	Company/Government
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____

(List additional personnel on reverse side)

II. Submittals.

1. Review submittals and/or submittal log 4288. Have all submittals been approved? Yes ____ No ____

If No, what items have not been submitted?

a. _____
b. _____
c. _____
2. Are all materials on hand? Yes ____ No ____
a. _____
b. _____
c. _____

3. Check approved submittals against delivered material. (This should be done as material arrives).

Comments: _____

III. Material Storage.

Are materials stored properly? Yes ____ No ____
If No, what action is taken?

Preparatory Phase Checklist (Cont'd)

IV. Specifications.

1. Review each paragraph of specifications.

2. Discuss procedure for accomplishing the work.

3. Clarify any differences.

V. Preliminary Work.

Ensure preliminary work is correct.

If not, what action is taken? _____

VI. Testing.

1. Identify test to be performed, frequency, and by whom.

2. When required? _____

3. Where required? _____

4. Review Testing Plan. _____

5. Has test facilities been approved? _____

VII. Safety.

1. Review applicable portion of EM 385-1-1. _____

2. Activity Hazard Analysis approved? Yes _____ No _____

VIII. Corps of Engineers comments during meeting.

CQC System Manager

INITIAL PHASE CHECKLIST

Contract No.: _____ Date: _____

Definable Feature: _____

Government Rep Notified: _____ Hours in Advance Yes _____ No _____

I. Personnel Present:

	Name	Position	Company/Government
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

(List additional personnel on reverse side)

II. Identify full compliance with procedures identified at preparatory. Coordinate plans, specifications, and submittals.

Comments: _____

III. Preliminary Work. Ensure preliminary work is complete and correct. If not, what action is taken? _____

IV. Establish Level of Workmanship.

1. Where is work located? _____
2. Is a sample panel required? Yes _____ No _____
3. Will the initial work be considered as a sample? Yes _____ No _____
(If yes, maintain in present condition as long as possible).

V. Resolve any Differences.

Comments: _____

Review job conditions using EM 385-1-1 and job hazard analysis.

Comments: _____

CQC System Manager

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SECTION 01500

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-- End of Section Table of Contents --

SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-04 Drawings

Site Plan; FIO.

The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor, the number of trailers to be used, avenues of ingress/egress to the fenced area and details of the fence installation. Any areas which may have to be graveled to prevent the tracking of mud shall also be identified. The Contractor shall also indicate if the use of a supplemental or other staging area is desired.

Government Field Office; FIO.

The Contractor shall submit a preliminary plan and description of the mobile office facilities which it proposes to furnish prior to proceeding with procurement thereof.

1.2 AVAILABILITY AND USE OF UTILITY SERVICES

1.2.1 Temporary Electrical Facilities

The Contractor shall be responsible for coordination and costs for electrical power required for the Contractor's operations, including all costs for utility company hookup, installation/dismantling of transformers and distribution lines. In general, the Contractor shall establish its own service connection with the utility company. If the Contractor proposes to use an existing Government service connection, a request shall be submitted for approval to verify the Contractor's use will not interfere with operation of the facilities, and the monthly service fees will be paid for in whole (including Government power consumption) by the Contractor.

1.2.2 Sanitation

The Contractor shall provide and maintain within the construction area field-type sanitary facilities in accordance with EM 385-1-1. These facilities shall include but not be limited to toilet, washing, and drinking water facilities.

1.2.3 Telephone

The Contractor shall make arrangements and pay all costs for their telephone facilities desired. Government personnel will not take or

deliver messages for the Contractor.

1.3 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads.

1.3.1 Haul Roads

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads designated by the Contracting Officer shall be removed.

1.3.2 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.4 CONTRACTOR'S TEMPORARY FACILITIES

1.4.1 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

1.4.2 Staging Area

The boundary limits of the grounds made available for the Contractor's use during the life of the contract are shown on the drawings as Work Limits. Trailers, materials, or equipment shall not be placed or stored outside the

work limits.

1.5 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

1.6 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, the Contractor shall furnish and erect temporary project safety fencing at the work site. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, generally located to encompass the active construction areas. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

PART 2 PRODUCTS

2.1 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

2.1.1 Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

2.1.2 Project and Safety Signs

The Contractor shall furnish and erect a Project sign and a Safety sign in a location selected by the Contracting Officer at the project site within 15 days after receipt of the notice to proceed. The requirements for the signs and their content shall be as shown on the drawings at the end of this section. The data required by the safety sign shall be corrected daily. Signs shall be maintained throughout the construction period, and upon completion of the project, the signs shall be removed from the site. The PROJECT DESCRIPTION and PROJECT NAME shall be as follows:

PROJECT DESCRIPTION: MAJOR MAINTENANCE, MISSISSIPPI RIVER

PROJECT NAME: LOCK 8 LOCKWORK, STAGE 2

2.2 GOVERNMENT FIELD OFFICE

The Contractor shall provide and maintain for the life of the contract an approved mobile office (mobile home style) meeting the following

requirements as to space and facilities for the exclusive use of the government. The unit shall be ready for occupancy within 30 calendar days after notice to proceed. The unit shall provide a minimum of 400 square feet of floor area and shall include two private offices, each having approximately 100 square feet of floor area and a storage closet. The unit shall have two entrance doors. The remaining space is to be utilized as one large office, a toilet room, a chest of drawers and a storage area for coats, etc. The unit shall be provided with a toilet room consisting of a stool and lavatory and an electric heater. The unit interior headroom shall be no less than a nominal 8'-0".

2.2.1 Location

The Contractor shall locate the portable mobile home type field office at or near the Contractor's field office site at a location approved by the Contracting Officer. Four parking spaces shall be reserved for Government vehicles at the Government trailer.

2.2.2 Construction.

The Government field office shall be similar in quality and age as the Contractor's field office, if provided. Exterior and interior finishes shall be free from color fade, chipping, or peeling. The unit shall be set level on blocking, be provided with plywood skirting, and be anchored to the ground for protection against wind damage. Exterior doors shall be provided with screens and outside hasps for use with padlocks. The unit shall be electrically wired for fluorescent ceiling lighting fixtures and weather proof porch lights at each entrance door, along with switches, duplex convenience outlets, and a master switch and fuse box as required. The entire unit shall be adequately insulated with fiberglass insulation and vapor barrier. Dead air crawl space shall be properly ventilated. Heating and air conditioning facilities shall be provided to maintain an ambient inside temperature of 68 degrees F. The unit shall be weather proof, and furnished with a forced air type heating plant, either gas or oil with hot and cold air ducts adequate to supply even heat throughout the unit. Air conditioning shall be furnished with capacity as recommended by the manufacturer for the trailer size. A central air conditioning system shall be provided.

2.2.3 Utilities.

The Contractor shall be responsible for service fees in connection with electrical power and heating (natural gas or oil service). The Contractor shall also be responsible for service fees in connection with the water supply, sanitary waste system, and telephone as indicated below. When available, city water and sewer system connections are preferred.

- a. Sanitary Facilities. In the absence of a city sewer connection, holding tanks shall be provided. The lavatory shall discharge into an outside underground holding tank with a capacity of not less than 400 gallons and a vented drain. The contractor shall provide year-round pumping of the holding tank as required. Subject to approval, a serviced chemical toilet may be used.
- b. Potable Water. In the absence of a city water connection, a potable water storage tank of not less than 300 gallons capacity shall be furnished with adequate supply filling connections and screened vent, and shall be stainless steel or plastic with a drain cock of not less than ½ inch size. Upon completion of the job, the Contractor shall remove the underground holding tank and backfill the excavation.

The Contractor shall provide potable water for the storage tank if service connections are not provided.

c. Telephone. The Contractor shall be responsible for installation of telephone at the Government office. The telephone hook-up should be placed on a separate account from the Contractor's phone so that it can be transferred to the Government after installation. The Government will be responsible for the telephone service to the Government field office after installation.

2.2.4 Furnishings.

The following furnishings shall be provided for the Government office:

- a. A hot and cold drinking water dispenser.
- b. Bulletin board, minimum size 6 square feet.
- c. A cabinet shall be supplied along a side wall with minimum nominal dimensions 2 feet wide, 3 feet high and 6 feet long. The cabinet shall include a finished wood or laminate counter. Two shelves, one above and one below the cabinet, shall be provided for storage.
- d. Sign. The contractor shall securely attach to the unit exterior and adjacent to the main entrance door, as approved, a 24 inch by 36 inch sign with the Corps of Engineers castle insignia with wording as specified.
- e. Stoop. A stoop with 8 inch risers and handrails shall be provided at each entrance door.
- f. Windows. All windows shall be provided with sash and security screens along with shades, blinds or similar features that allow for the complete coverage of the windows on the inside.
- g. Lavatory. A 5 by 24 inch metal shelf and 15 by 20 inch wood or metal framed plate glass mirror shall be provided above the lavatory.

2.2.5 Furniture

Office furniture shall be coordinated with respect to style, color, and upholstery. The following furniture shall be provided:

- a. Two desks either wood or steel, double pedestal type, top approximately 60 inches by 34 inches, with lock.
- b. Two swivel armchairs with tilting seat and adjustable spring back.
- c. Two filing cabinets, four-drawer legal size, with lock.
- d. One drafting table stool, non-tilting, rotary type with back and circular footrest.
- e. One drafting table, metal and/or wood, 36 inches by 48 inches.
- f. One conference table, 3/4 inch thick by 72 inches long by 36 inches wide with solid core construction top.
- g. Eight chairs for conference table, either wood or steel construction, with cushioned seat and backrest.
- h. One rack for hanging full size drawings.

2.2.6 Office Equipment

The following equipment shall be provided:

- a. One desk top facsimile (FAX) machine with modem BPS speeds of 9600, 7200, 4800, and 2400; an effective scanning width of 11.7 inches and line scanning density of 8 pels/mm horizontal and an effective scanning width of 7.7 inches and line scanning density of 3.85 lines/mm vertical. Initially supply four reams of paper (500 sheets per ream).
- b. One desk top copying machine with an indirect dual component dry

tone process. Paper copy sizes shall be a maximum of 11 inches by 17 inches and a minimum of 4.25 inches by 5.5 inches. The machine shall have a halogen lamp light source and an automatic sheet feed (single cassette). Initially supply four reams (500 sheets per ream) of white copying paper and furnish a complete maintenance service contract/agreement for the machine.

2.2.7 Maintenance.

The Contractor shall maintain the field office for the life of the contract. The Contractor shall be responsible for maintaining and paying for all costs associated with the following services:

- a. Supplies. Toilet paper, paper toweling, paper and supplies for the FAX and copy machines shall be provided. Supply water for the drinking water dispenser. Supply water for the lavatory if a service connection is not provided for potable water.
- b. Maintenance of office equipment. Include a maintenance service contract/agreement for operation of the Fax and Copy machines.
- c. Janitorial Service. The Contractor shall provide daily janitorial service and provide all janitorial and sanitary supplies as well as trash removal service.
- d. Snow removal. Maintenance of site access including snow removal service is the responsibility of the contractor.

PART 3 EXECUTION

3.1 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

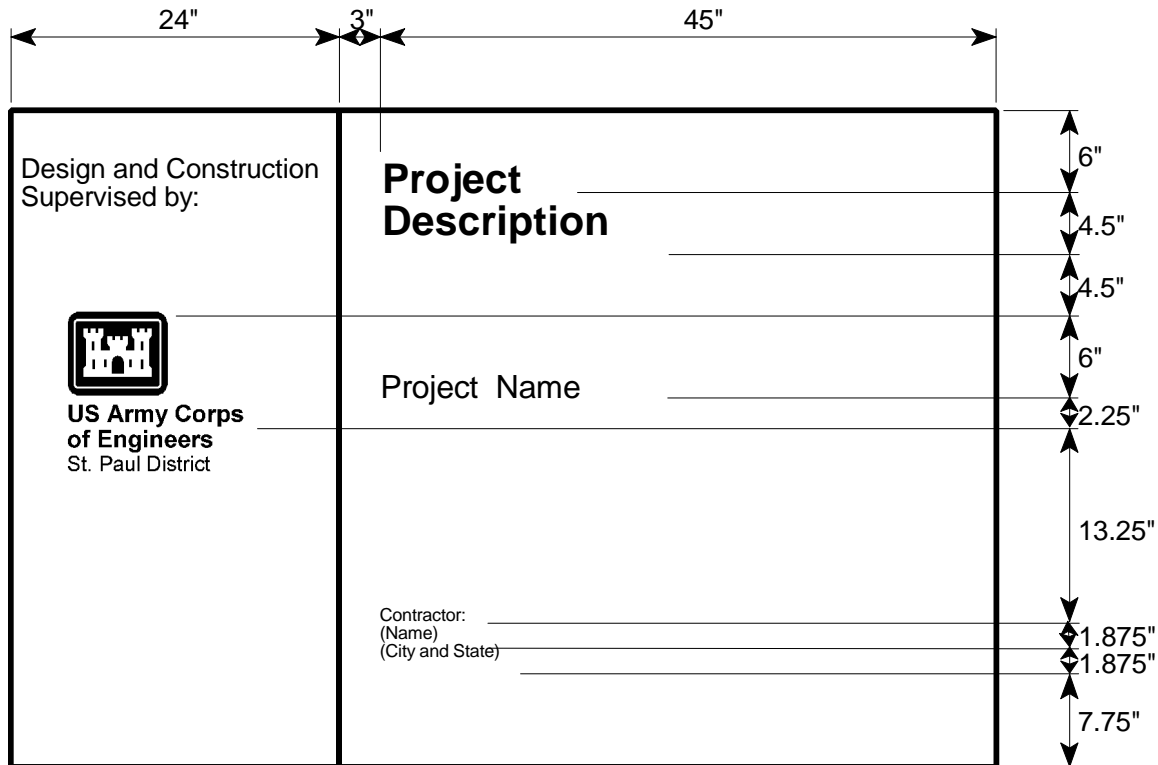
3.2 RESTORATION OF STORAGE AREA

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and seeding as necessary.

-- End of Section --

PROJECT SIGN

The graphic format for this 4' x 6' sign panel follows the legend guidelines and layout as specified below. The large 4' x 4' section of the panel on the right is to be white with black legend. A 2' x 4' decal provided by the Corps shall be placed on the left side of the sign panel.



Project Description:

One to three line project title legend describes the work being done under this contract.

Color: Black; Typeface: 3" Helvetica Bold; Maximum line length: 42".

Project Name:

One to three line identification of project or facility.

Color: Black; Typeface: 1.5" Helvetica Bold; Maximum line length: 42".

Cross-align the first line of PROJECT NAME with the first line of the Corps Signature as shown.

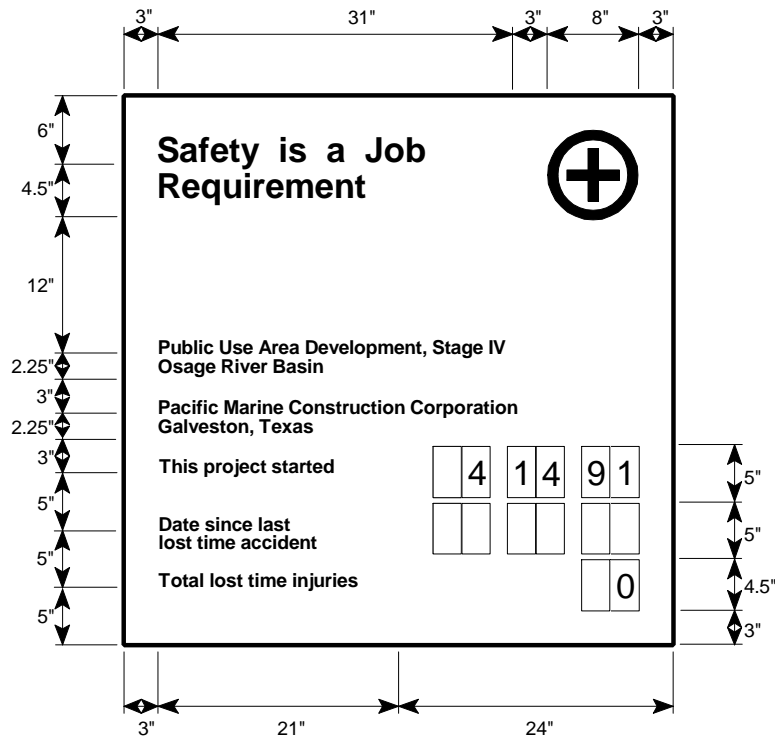
Contractor:

One to five line identification of prime contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state.

Color: Black; Typeface: 1.25" Helvetica Bold; Maximum line length: 21".

All typography is flush left and ragged right, upper and lower case with initial capitals only as shown. Letter and word spacing to follow Corps Standards (EP 310-1-6a and 6b).

SAFETY SIGN



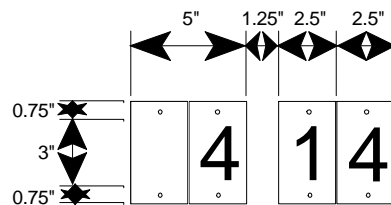
All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter and word spacing to follow Corp's Standards (EP 310-1-6a and 6b).

Legend Group 1: Standard two-line title "Safety is a Job Requirement" with (8" od.) Safety Green First Aid logo. Typeface: 3" Helvetica Bold; Color: Black.

Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project. Typeface: 1.5" Helvetica Regular; Color: Black; Maximum line length: 42".

Legend Group 3: One- to two-line identification: name of prime contractor and city, state address. Typeface: 1.5" Helvetica Regular; Color: Black; Maximum line length: 42".

Legend Group 4: Standard safety record captions as shown. Typeface: 1.25" Helvetica Regular; Color: Black.



Replaceable numbers are to be mounted on white 0.060 aluminum plates and screw-mounted to background. Typeface: 3" Helvetica Regular; Color: Black; Plate size: 2.5" x 4.5".

SIGN ERECTION DETAILS

